



U.S. ENVIRONMENTAL PROTECTION AGENCY

Office of Pesticide Programs  
Registration Division (7505P)  
1200 Pennsylvania Ave., N.W.  
Washington, D.C. 20460

EPA Reg. Number:

228-745

Date of Issuance:

12/16/19

NOTICE OF PESTICIDE:

Registration  
 Reregistration  
(under FIFRA, as amended)

Term of Issuance:

Conditional

Name of Pesticide Product:

NUP-17001

Name and Address of Registrant (include ZIP Code):

Nufarm Inc.  
4020 Aerial Center Parkway, Suite 101  
Morrisville, NC 27560

**Note:** Changes in labeling differing in substance from that accepted in connection with this registration must be submitted to and accepted by the Registration Division prior to use of the label in commerce. In any correspondence on this product always refer to the above EPA registration number.

On the basis of information furnished by the registrant, the above named pesticide is hereby registered under the Federal Insecticide, Fungicide and Rodenticide Act.

Registration is in no way to be construed as an endorsement or recommendation of this product by the Agency. In order to protect health and the environment, the Administrator, on his motion, may at any time suspend or cancel the registration of a pesticide in accordance with the Act. The acceptance of any name in connection with the registration of a product under this Act is not to be construed as giving the registrant a right to exclusive use of the name or to its use if it has been covered by others.

This product is conditionally registered in accordance with FIFRA section 3(c)(7)(A). You must comply with the following conditions:

1. Submit and/or cite all data required for registration/reregistration/registration review of your product under FIFRA when the Agency requires all registrants of similar products to submit such data.

Signature of Approving Official:

Emily Schmid, Product Manager 25  
Herbicide Branch, Registration Division (7505P)

Date:

12/16/19

2. You are required to comply with the data requirements described in the DCI identified below:

a. Flumioxazin GDCI-129034-1236

You must comply with all of the data requirements within the established deadlines. If you have questions about the Generic DCI listed above, you may contact the Chemical Review Manager in the Pesticide Reevaluation Division: <http://iaspub.epa.gov/apex/pesticides/f?p=chemicalsearch:1>

3. Make the following label changes before you release the product for shipment:

- Revise the EPA Registration Number to read, “EPA Reg. No. 228-745.”

4. Submit one copy of the final printed label for the record before you release the product for shipment.

Should you wish to add/retain a reference to the company’s website on your label, then please be aware that the website becomes labeling under the Federal Insecticide Fungicide and Rodenticide Act and is subject to review by the Agency. If the website is false or misleading, the product would be misbranded and unlawful to sell or distribute under FIFRA section 12(a)(1)(E). 40 CFR 156.10(a)(5) list examples of statements EPA may consider false or misleading. In addition, regardless of whether a website is referenced on your product’s label, claims made on the website may not substantially differ from those claims approved through the registration process. Therefore, should the Agency find or if it is brought to our attention that a website contains false or misleading statements or claims substantially differing from the EPA approved registration, the website will be referred to the EPA’s Office of Enforcement and Compliance.

If you fail to satisfy these data requirements, EPA will consider appropriate regulatory action including, among other things, cancellation under FIFRA section 6(e). Your release for shipment of the product constitutes acceptance of these conditions. A stamped copy of the label is enclosed for your records. Please also note that the record for this product currently contains the following CSFs:

- Basic CSF dated 2/18/2019
- Alternate CSF 1 dated 2/18/2019

If you have any questions, please contact Sarah Meadows by phone at 703-347-0505, or via email at [meadows.sarah@epa.gov](mailto:meadows.sarah@epa.gov).

Enclosure

**ACCEPTED**

12/16/2019

Under the Federal Insecticide, Fungicide and Rodenticide Act as amended, for the pesticide registered under EPA Reg. No. 228-745

GLYPHOSATE	GROUP	9	HERBICIDE
FLUMIOXAZIN	GROUP	14	HERBICIDE

# NUP-17001

**[ABN: RazorGuard™ Herbicide]**

**BROAD SPECTRUM NONSELECTIVE PREEMERGENCE AND POSTEMERGENCE HERBICIDE**

<b>ACTIVE INGREDIENTS:</b>	
Glyphosate, N-(phosphonomethyl) glycine, in the form of its isopropylamine salt .....	31.38%*
Flumioxazin: 2-[7-fluoro-3,4-dihydro-3-oxo-4-(2-propynyl)-2H-1,4-benzoxazin-6-yl]-4,5,6,7-tetrahydro-1H-isoindole-1,3(2H)-dione.....	7.85%**
<b>OTHER INGREDIENTS:</b> .....	<u>60.77%</u>
<b>TOTAL:</b> .....	100.00%
*Contains 360 grams per liter or 3 pounds per US gallon of the active ingredient glyphosate, in the form of its isopropylamine salt. Equivalent to 270 grams per liter or 2.3 pounds per US gallon of the acid, glyphosate	
**Contains 91 grams per liter or 0.76 pounds per US gallon	

[For ≤ 5 Gallon Containers:] [Shake Well Before Use]  
[For > 5 Gallon Containers:] [Shake Well, Agitate or Recirculate Before Use]

**KEEP OUT OF REACH OF CHILDREN**

**CAUTION**

Si usted no entiende la etiqueta busque a alguien para que se la explique a usted en detalle.  
(If you do not understand the label find someone to explain it to you in detail)

**SEE BELOW [NEXT PAGE] [INSIDE] [BOOKLET] FOR ADDITIONAL FIRST AID AND PRECAUTIONARY STATEMENTS**

For Chemical Spill, Leak, Fire, or Exposure, Call CHEMTREC (800) 424-9300  
For Medical Emergencies Only, Call (877) 325-1840

<b>FIRST AID</b>	
<b>IF ON SKIN OR CLOTHING</b>	<ul style="list-style-type: none"> <li>•Take off contaminated clothing.</li> <li>•Rinse skin immediately with plenty of water for 15-20 minutes.</li> <li>•Call a poison control center or doctor for treatment advice.</li> </ul>
<b>IF IN EYES</b>	<ul style="list-style-type: none"> <li>•Hold eye open and rinse slowly and gently with water for 15 to 20 minutes.</li> <li>•Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye.</li> <li>•Call a poison control center or doctor for treatment advice.</li> </ul>
<b>HOT LINE NUMBER</b>	
Have the product container or label with you when calling a poison control center or doctor, or going for treatment. You may also contact 1-877-325-1840 for emergency medical treatment information.	

EPA REG. NO. 228-  
EPA EST. NO.

**MANUFACTURED FOR**  
Nufarm Inc.  
11901 SOUTH AUSTIN AVENUE  
ALSIP, IL 60803

**NET CONTENTS:**

**[Designation as “NONREFILLABLE” or “REFILLABLE” for containers >5]**

[228-TUL.20191212]

**PRECAUTIONARY STATEMENTS  
HAZARDS TO HUMANS AND DOMESTIC ANIMALS  
CAUTION**

Harmful if absorbed through skin. Causes moderate eye irritation. Avoid contact with skin, eyes or clothing. Remove and wash contaminated clothing before reuse. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco or using the toilet. Prolonged or frequently repeated skin contact may cause allergic reactions in some individuals.

**PERSONAL PROTECTIVE EQUIPMENT (PPE)**

**Applicators and other handlers must wear:**

- Long-sleeved shirt and long pants
- Shoes and socks
- Chemical-resistant gloves
- Protective eyewear

Follow manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for washables exist, use detergent and hot water. Keep and wash PPE separately from other laundry.

**Engineering Controls Statement:**

When handlers use closed systems, enclosed cabs, or aircraft in a manner that meets the requirements listed in the Worker Protection Standard (WPS) for agricultural pesticides (40 CFR 170.240(d)(4-6)), the handler PPE requirements may be reduced or modified as specified in the WPS.

**USER SAFETY RECOMMENDATIONS**

**Users should:**

- Wash hands thoroughly after handling and before eating, drinking, chewing gum, using tobacco, or using the toilet.
- Remove clothing/PPE immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.
- Remove PPE immediately after handling this product. Wash the outside of gloves before removing. As soon possible, wash thoroughly and change into clean clothing.

**ENVIRONMENTAL HAZARDS**

This product is toxic to non-target plants and aquatic invertebrates. Do not apply directly to water, or to areas where surface water is present or to intertidal areas below the mean high water mark. Drift and runoff may be hazardous to non-target plants and aquatic organisms in neighboring areas. Do not apply where runoff is likely to occur. Do not apply when weather conditions favor drift from treated areas. Do not contaminate water when disposing of equipment washwaters or rinsate.

This pesticide is toxic to plants and should be used strictly in accordance with the drift and run-off precautions on this label in order to minimize off-site exposures.

Under some conditions, this product may have a potential to run-off to surface water or adjacent land. Where possible, use methods which reduce soil erosion, including no till, limited till, and contour plowing; these methods also reduce pesticide run-off. Use of vegetation filter strips along rivers, creeks, streams, wetlands or on the downhill side of fields where run-off could occur will minimize water run-off.

**Note to EPA Reviewer:** *If shipped in containers greater than 50 lb., the following statement will be added to the label:* [Do not discharge effluent containing this product into lakes, streams, ponds, estuaries, oceans, or other waters unless in accordance with the requirements of a National Pollutant Discharge Elimination System (NPDES) permit and the permitting authority has been notified in writing prior to discharge. Do not discharge effluent containing this product to sewer systems without previously notifying the local sewage treatment plant authority. For guidance contact your State Water Board or Regional Office of the EPA.]

**PHYSICAL OR CHEMICAL HAZARDS**

Do not mix or allow contact with oxidizing agent. Hazardous chemical reaction may occur. Spray solutions of this product should be mixed, stored and applied using only stainless steel, aluminum, fiberglass, plastic or plastic-lined steel containers. Do not mix, store or apply this product or spray solutions of this product in galvanized steel or unlined steel (except stainless steel) containers or spray tanks. This product or spray solutions of this product react with such containers and tanks to produce hydrogen gas which may form a highly combustible gas mixture. This gas mixture could flash or explode, causing serious personal injury, if ignited by open flame, spark, welder's torch, lighted cigarette or other ignition source.

## DIRECTIONS FOR USE

It is a violation of Federal law to use this product in a manner inconsistent with its labeling. Do not use this product until you have read the entire label. Do not apply this product in a way that will contact workers or other persons, either directly or through drift. Only protected handlers may be in the area during application. For requirements specific to your State or Tribe, consult the agency responsible for pesticide regulation.

### AGRICULTURAL USE REQUIREMENTS

Use this product only in accordance with its labeling and with the Worker Protection Standard, 40 CFR part 170. This Standard contains requirements for the protection of agricultural workers on farms, forests, nurseries, and greenhouses; and handlers of agricultural pesticides. It contains requirements for training, decontamination, notification, and emergency assistance. It also contains specific instructions and exceptions pertaining to the statements on this label about personal protective equipment (PPE), and restricted-entry intervals. The requirements in this box only apply to uses of this product that are covered by the Worker Protection Standard.

**Do not enter or allow worker entry into treated areas during the restricted entry-interval (REI) of 12 hours.**

PPE required for early entry to treated areas that is permitted under the Worker Protection Standard and that involves contact with anything that has been treated, such as plants, soil, or water, is:

- Coveralls
- Shoes plus socks
- Chemical resistant gloves made of waterproof material
- Protective eyewear

### NON-AGRICULTURAL USE REQUIREMENTS

The requirements in this box apply to uses of this product that are NOT within the scope of the Worker Protection Standard for agricultural pesticides (40 CFR Part 170). The WPS applies when this product is used to produce agricultural plants on farms, forests, or greenhouses. Keep people and pets off treated areas until sprays have dried.

### PRODUCT INFORMATION

This product may be applied for the control of undesirable plant vegetation in a variety of settings. This product offers preemergence and postemergence control of susceptible broadleaf and grass weeds. See Table 1 under *WEEDS CONTROLLED* section for a complete list of weeds controlled. This product is foliar-active and provides residual weed control in the soil. Necrosis of leaves and young shoots occur within 2 to 4 days after application under active growing conditions. Weeds listed on this label that emerge after application will be controlled. The length of residual control is dependent upon the rate applied, as well as, on rainfall and temperature conditions. Length of residual control will decrease as temperature and precipitation increase.

This product may cause plant injury if the spray solution directly contacts actively growing plant foliage or green bark. Leaves that receive indirect (drift) spray contact may be affected in a similar manner. This product is translocated throughout the plant when applied to the foliage. **Direct application to actively growing foliage can cause severe injury or death, especially with sensitive ornamental plants.**

Established ornamentals have shown tolerance to this product **only** when applied to the soil at the base of the plant. For maximum plant safety when using around desirable ornamentals, direct applications of this product to the soil, and leave a sufficient untreated buffer to ensure spray solution does not contact desired plants.

**IMPORTANT:** This product is a very active herbicide. Exercise responsible judgment and caution until familiarity is gained with this product. Due to variability within species, crop growth stage, environmental conditions and application techniques, it is suggested that users test this product under local growing conditions on a small number of plants and evaluate for 4 to 6 weeks for phytotoxicity. Testing this product on a small number of plants will determine if the herbicide can be used safely on a widespread application. Neither the seller nor the manufacturer of this product has investigated the safety to plants not listed on the label.

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### USE SITES

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Apply this product only to the following areas: airfields, airports, alleys, lanes, paths, trails, access roads, around commercial or industrial structures or outbuildings, around farm and ranch structures and outbuildings, around ornamental gardens, around established ornamental trees and shrubs, residential and commercial landscapes, bare ground, beaches, campgrounds, construction sites, ditch banks, drive-in theaters, driveways and ramps, dry ditches and canals, fences and fencerows, firebreaks, golf courses, sod farms, gravel yards, habitat restoration and management areas, grass water waterways, rain gardens, highways and roadsides (including aprons, medians, guardrails and right of ways), industrial plant sites, industrial areas, lumber yards, mulched areas, natural areas, nurseries, office complexes, apartment complexes, parking areas, parks, paved areas, petroleum and other tank farms, pumping installations, pipeline, power, telephone and utility rights-of-way, power stations, railroad rights-of way, recreation areas, refineries, resorts, schools, sidewalks, sports areas, storage areas, substations, tennis courts, shelter belts, uncropped farmstead areas, uncultivated non-agricultural areas, vacant lots, walkways, wastelands, wildlife habitat areas

**Greenhouse:** This product may be used to control weeds listed on this label which are growing in greenhouses and other enclosed structures. Desirable vegetation must not be present during application and air circulation fans must be turned off. Only after the treated area has been water with a minimum of 1" of water and the greenhouse has completely dried for 24 hours, can plants be placed back in the greenhouse.

**Industrial:** This product may be used to improve line-of-sight at railroad crossings and reduce the need for mowing along rights-of-way, wayside structures, and other similar areas. This product may be tank mixed with other herbicides for these use sites unless specifically prohibited by the product label. See the Tank Mix Instructions section for more information.

**Ornamentals:** Application of this product near ornamental plants is limited to directed sprays around well-established woody shrubs and trees.

**Site Preparation:** Wait until plants have been actively growing for at least 30 days after transplanting, or for at least two months before ornamentals will be planted into treated areas.

**Trim and Edge:** This product may be used to trim and edge around trees, buildings, sidewalks, roads, potted plants and other objects in a nursery setting, along fences, in dry ditches and canals, and prior to planting landscape ornamentals.

#### **USE RESTRICTIONS:**

- Do not apply more than 2 qts (0.38 lb. ai flumioxazin and 1.5 lb. ae glyphosate) of this product per acre per application.
- Do not apply more than 4 qts (0.75 lb. ai flumioxazin and 3.0 lb. ae glyphosate) of this product per acre per year.
- Do not apply more than 3 applications (maximum 0.75 lb. ai flumioxazin and 3.0 lb. ae glyphosate) per acre per year.
- Do not reapply this product within 30 days.
- Do Not apply within 300 feet of non-dormant pome or stone fruit crops.
- Do not harvest fruit or nuts from trees in treated areas within one year of application.
- Do not apply this product over-the-top as a broadcast application to ornamentals.
- Do not apply in enclosed greenhouse structures if plants are present.
- Do not apply this product within any enclosed structure in residential or commercial landscapes.
- Do not apply this product around landscape ornamentals until plants have been actively growing for at least 30 days after transplanting, or for at least two months before ornamentals will be planted into treated areas.
- Do not incorporate into soil after application.
- Do not apply directly to or allow drift to contact desirable green tissue or green, thin, or uncalloused bark of desirable vegetation.
- Do not apply this product through any type of irrigation system.
- Do not graze treated fields or hay to livestock.
- Do not incorporate into soil after application.
- Do not apply when plants are under stress from insects, diseases, winter injury or any other stresses.

#### **USE PRECAUTIONS:**

- Only apply to healthy established trees and ornamentals.
- Treatment of powdery, dry soil or light sandy soil, or light sandy soil when there is little to no likelihood of rainfall soon after may result in off target movement and possible damage to actively growing susceptible crops when soil particles are moved by wind or water.
- Thoroughly clean the sprayer following use.
- Avoid applications when weather conditions favor spray drift from treated areas.
- Avoid spot or directed spray applications to desired plant foliage or stems as injury may occur.
- Avoid irrigating until sprays have thoroughly dried on the foliage.
- Uniform, thorough spray coverage is necessary to achieve consistent weed control.
- This product is rainfast in 1 hour after application to most weed species; therefore, rainfall within 1 hour may necessitate retreatment or may result in reduced weed control.
- Weed control may be reduced if application is made when heavy dew, fog, and mist/rain are present, or when weeds are under stress due to environmental conditions such as drought, cool temperatures, or extended periods of cloudiness.

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## APPLICATION METHODS

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Applications of this product may be made on a broadcast, banded or spot treatment basis. Avoid direct spray or drift to desirable vegetation. Regrowth may occur due to the weed stage of growth at application, low use rate, or environmental conditions. Repeat treatments may be necessary to control plants generating from underground reproductive structures.

Mix 1.0 to 1.5 fl. oz. of this product per gallon of spray solution (1.3 to 2.0 qts/A) and apply 1 gallon of spray solution to 1,000 square feet to actively growing weeds. Larger weeds and longer residual control will require a higher use rate.

### SOIL CHARACTERISTICS:

- Moisture is necessary to activate this product for residual weed control. Moisture is needed to move this product into the soil for preemergence weed control. Dry weather following application of this product may reduce effectiveness. However, when adequate moisture is received after dry conditions, this product will control susceptible germinating weeds.
- When adequate moisture is not received soon after this product is applied to soil, weed control may be improved by using shallow cultivation. If weeds begin to emerge, irrigate (1/2" of water) or cultivate uniformly with shallow tillage equipment that will not damage the crop. Deep cultivation reduces the effectiveness of this product.
- Application of this product to soils with high organic matter and/or high clay content may require higher dosages than with soils with low organic matter and/or low clay content. Application to cloddy seedbeds can result in reduced weed control.

### BROADCAST APPLICATION:

Apply this product, and this product's tank mixes, with ground equipment using standard commercial sprayers equipped with nozzles designed to deliver the desired spray pressure and spray volume.

### BAND APPLICATION:

When banding, use proportionately less water and this product per acre.

### HANDGUN APPLICATION:

Applications may also be made using a handgun sprayer. Use a spray volume of at least 20 gallons per acre to insure uniform coverage.

### BACKPACK APPLICATION:

When applying this product with a backpack sprayer, calibrate backpack sprayers to deliver 1 gallon of spray solution per 1,000 square feet. Thorough spray coverage of weeds is necessary to maximize weed control. Spray coverage should be uniform, but do not spray to the point of runoff.

### COMPATIBILITY TESTING:

- If this product is to be mixed with pesticides or fertilizers, jar test the compatibility of the intended tank mixture prior to mixing the products in the spray tank.

**TANK MIX INSTRUCTIONS:** It is the pesticide user's responsibility to ensure that all products are registered for the intended use. Read and follow the applicable restrictions and limitations and directions for use on all product labels involved in tank mixing. Users must follow the most restrictive directions for use and precautionary statements of each product in the tank mixture. Prior to adding this product to the spray tank, ensure that the spray tank is thoroughly clean, particularly if an herbicide with the potential to injure crops was previously used.

### MIXING INSTRUCTIONS

- Mix with water having pH of 5 to 7. If pH is higher than 7, use an appropriate buffer to reduce pH to desirable range.
- Fill clean spray tank 1/2 full of desired level with water and add buffering agent if necessary.
- Add the required amount of this product to the spray tank while agitating.
- Fill spray tank to desired level with water. Ensure that this product is thoroughly mixed before making applications. Continue agitation until spray solution has been applied.
- Apply this product within 48 hours of mixing.

### CARRIER VOLUME AND SPRAY PRESSURE

To ensure uniform coverage, use 10 to 88 gallons of spray solution per acre. Nozzle must meet manufacturer's gallonage and pressure directions for herbicide applications.

### ADJUVANTS

When applying this product after weed emergence, mix with an agronomically approved adjuvant. A non-ionic surfactant containing at least 80% active ingredient must be used when applying this product as part of a postemergence weed control program. Verify mixing compatibility by a jar test before using.

### JAR TEST TO DETERMINE COMPATIBILITY OF ADJUVANTS AND THIS PRODUCT

Perform a jar test before mixing commercial quantities of this product, when using this product for the first time, when using new adjuvants or when a new water source is being used.

1. Add 1 pint of the water to a quart jar. Use water from the same source and temperature as which will be used in the spray tank mixing operation.

2. Add 1 milliliter of this product to the quart jar for every 3 fl oz of this product per acre being applied (4 ml if 12 fl oz per acre is the desired rate of this product), gently mix until product goes into suspension.
3. Add 1 milliliter of non-ionic surfactant or 60 millimeters of crop oil concentrate, gently mix.
4. Place cap on jar, invert 10 times, let stand for 15 minutes, evaluate.
5. An ideal tank mix combination will be uniform. If any of the following conditions are observed use a different adjuvant:
  - a) Layer of oil or globules on the mixture's surface.
  - b) Flocculation: fine particles in suspension or as a layer on the bottom of the jar.
  - c) Clabbering: Thickening texture (coagulated) like gelatin.

## **SPRAYER CLEANUP**

If spray equipment is dedicated to herbicide applications, the following steps are to clean the spray equipment:

- Completely drain the spray tank and rinse the application equipment thoroughly, including the inside and outside of the tank and all in-line screens.

If spray equipment will be used for purposes other than applying herbicides, it must be thoroughly cleaned following application of this product. The following steps must be used to clean the spray equipment:

1. Completely drain the spray tank and rinse the sprayer thoroughly, including the inside and outside of the tank and all in-line screens.
2. Fill the tank with clean water and flush all hoses, booms, screens and nozzles.
3. Top off tank with clean water and household ammonia. Use 1 gallon of 3% household ammonia for every 100 gallons of water.
4. Circulate through sprayer for 5 minutes.
5. Then flush all hoses, booms, screens and nozzles for a minimum of 15 minutes.
6. Loosen any diaphragms before flushing the spray system, allowing cleaning solution to spray through the open diaphragm.
7. Drain tank completely.
8. Add enough clean water to the spray tank to flush hoses, booms, screens and nozzles for 2 minutes.
9. Remove all nozzles and screens and rinse them with clean water.

## **SPRAY DRIFT MANAGEMENT**

AVOIDING SPRAY DRIFT AT THE APPLICATION SITE IS THE RESPONSIBILITY OF THE APPLICATOR. Spray drift may result in injury to non-target crops or vegetation. To avoid spray drift, do not apply when wind speed is greater than 15 MPH or during periods of temperature inversions. Do not apply when weather conditions, wind speed, or wind direction may cause spray drift to non-target areas.

## **IMPORTANCE OF DROPLET SIZE**

An effective way to reduce spray drift is to apply large droplets. Use the largest droplets that provide target pest control. While applying larger droplets will reduce spray drift, the potential for drift will be greater if applications are made improperly or under unfavorable environmental conditions.

### **Controlling Droplet Size – Ground Boom**

- Volume – Increasing the spray volume so that larger droplets are produced will reduce spray drift. Use the highest practical spray volume for the application. If a greater spray volume is needed, consider using a nozzle with a higher flow rate.
- Pressure – Use the lowest spray pressure recommended for the nozzle to produce the target spray volume and droplet size.
- Spray Nozzle – Use a spray nozzle that is designed for the intended application. Consider using nozzles designed to reduce drift.

## **SHIELDED SPRAYERS**

Shielding the boom or individual nozzles can reduce spray drift. Consider using shielded sprayers. Verify that the shields are not interfering with the uniform deposition of the spray on the target area.

## **TEMPERATURE AND HUMIDITY**

When making applications in hot and dry conditions, use larger droplets to reduce effects of evaporation.

## **TEMPERATURE INVERSIONS**

Drift potential is high during a temperature inversion. Temperature inversions are characterized by increasing temperature with altitude and are common on nights with limited cloud cover and light to no wind. The presence of an inversion can be indicated by ground fog or by the movement of smoke from a ground source or an aircraft smoke generator. Smoke that layers and moves laterally in a concentrated cloud (under low wind conditions) indicates an inversion, while smoke that moves upward and rapidly dissipates indicates good vertical air mixing. Avoid applications during temperature inversions.

## **WIND**

Drift potential generally increases with wind speed. Avoid applications during gusty wind conditions.

## RESISTANCE MANAGEMENT

For resistance management, this product contains both a Group 9 herbicide and Group 14 herbicide. Any weed population may contain or develop plants naturally resistant to Group 9 and/or Group 14 herbicides. The resistant biotypes may dominate the weed population if these herbicides are used repeatedly in the same area. Appropriate resistance management strategies should be followed.

To delay herbicide resistance, take one or more of the following steps:

- Rotate the use of this product or other Group 9 herbicides or Group 14 herbicides within a growing season sequence or among growing seasons with different herbicide groups that control the same weeds.
- Use tank mixtures with herbicides from a different group if such use is permitted; where information on resistance in target weed species is available, use the less resistance-prone partner at a rate that will control the target weed(s) equally as well as the more resistance-prone partner. Consult your local extension service or certified crop advisor if you are unsure as to which active ingredient is currently less prone to resistance.
- Adopt an integrated weed-management program for herbicide use that includes scouting and uses historical information related to herbicide use and that considers mechanical control methods, cultural (e.g., timing to favor the turf and not the weeds), biological (weed-competitive varieties) and other management practices.
- Scout after herbicide application to monitor weed populations for early signs of resistance development. Indicators of possible herbicide resistance include: (1) failure to control a weed species normally controlled by the herbicide at the dose applied, especially if control is achieved on adjacent weeds; (2) a spreading patch of non-controlled plants of a particular weed species; (3) surviving plants mixed with controlled individuals of the same species. If resistance is suspected, prevent weed seed production in the affected area by an alternative herbicide from a different group or by a mechanical method. Prevent movement of resistant weed seeds to other areas by cleaning equipment.
- If a weed pest population continues to progress after treatment with this product, discontinue use of this product, and switch to another management strategy or herbicide with a different mode of action, if available.
- Contact your local extension specialist or certified crop advisors for additional pesticide resistance-management and/or integrated weed-management recommendations for specific crops and weed biotypes.

## WEEDS CONTROLLED

When this product is applied preemergence or postemergence at directed rates, the following grass, broadleaf and sedges are controlled:

TABLE 1. WEEDS CONTROLLED			
Alfalfa	Dallisgrass	Marshelder, annual	Redweed
Alkali sida	Dandelion	Marsh parsley	Rocket, yellow
Alligatorweed	Devil's claw	Mayweed	Rose, wild
Alyssum, Hoary	Dock, curly	Milkweed, common	<i>Rubus</i> spp.
Amaranth, Palmer	Dock, smooth	Milkweed, honeyvine	Rice, red
Amaranth, spiny	Dodder	Millet, wild proso	Rice, volunteer
American burnweed	Dogbane (hemp)	Millet, proso volunteer	Rush, toad
Ammannia, purple	Dogfennel	Morningglory, entireleaf	Rye
Anise (fennel)	Doveweed	Morningglory, ivyleaf	Rye, common
Anoda, spurred	Eclipta	Morningglory, pitted	Ryegrass, annual
Arrowhead, California	Falseflax, smallweed	Morningglory, red/scarlet	Ryegrass, Italian
Artichoke, Jerusalem	Fescue	Morningglory, sharppod	Ryegrass, perennial
Aster, white heath	Fescue, tall	Morningglory, smallflower	Sandbur, field
Balsamapple	Fleabane	Morningglory, tall	Sesbania, hemp
Barley, volunteer	Fleabane, annual	Moss	Senna coffee
Barnyardgrass	Fleabane, hairy	Mulberry weed	Shattercane
Bassia, fivehook	Fiddleneck	Muhly, wirestem	Shepherd's Purse
Beggarweed, Florida	Filaree	Mullein, common	Sicklepod (java bean)
Bentgrass	Filaree, redstem	Mullein, turkey	Sida, prickly
Bermudagrass	Foxtail, bristly	Mustard, blue	Signalgrass, broadleaf
Bindweed, field	Foxtail, Carolina	Mustard, tansy	Smartweed, Pennsylvania
Bindweed, hedge	Foxtail, giant	Mustard, tumble	Smellmelon
Black medic	Foxtail, green	Mustard, wild	Sowthistle, annual
Bluegrass, annual	Foxtail, robust purple	Nettle	Sowthistle, perennial
Bluegrass, bulbous	Foxtail, yellow	Nightshade, black	Soybean, volunteer
Bluegrass, Kentucky	Gallinsoga, hairy	Nightshade, eastern black	Smutgrass
Blueweed, Texas	Gallinsoga, small flower	Nightshade, hairy	Spanishneedles
Brackenfern	Geranium, Carolina	Nightshade, silverleaf	Spiderwort, tropical
Brome	Geranium, cutleaf	Nutsedge, purple	Sprangletop
Brome, ripgut	Goatgrass, jointed	Nutsedge, yellow	Spurge, annual
Bromegrass, downy	Goosefoot	Oat, wild	Spurge, petty
Bromegrass, smooth	Goosegrass	Onion, wild	Spurge, prostrate
Buckwheat, wild	Goldenrod, gray	Orchardgrass	Spurge, leafy
Buffalobur	Gromwell, field	Pampasgrass	Spurge, spotted
Bulrush	Groundcherry, cutleaf	Panicum, fall	Spurry, umbrella
Burclover, California	Groundsel, common	Panicum, Texas	Starbur, bristly
Burcucumber	Groundsel, tree	Paragrass	Starthistle, yellow
Burdock	Guineagrass	Parsley-Peirt	Stinkgrass
Bursage, woolyleaf	Hempnettle	Pearlwort, birdseye	Sunflower, common
Buttercup	Henbit	Pennycress	Sunflower, prairie
Canarygrass	Horsenettle, Carolina	Pennycress, field	Sunflower, volunteer
Carpetweed	Horsetail	Phragmites	Swinecress
Catchweed bedstraw (cleavers)	Horseweed	Phyllanthus, longstalked	Tassle-flower
Chamberbitter	Indigo, hairy	Pigweed, redroot	Thistle, bull
Cheat	Ivy, ground	Pigweed, prostrate	Thistle, Canada
Chess, soft	Johnsongrass, rhizome	Pigweed, spiny	Thistle, musk
Chickweed, common	Johnsongrass, seedling	Pigweed, smooth	Thistle, Russian
Chickweed, mouse-ear	Jimsonweed	Pigweed, tumble	Timothy
Chinese thornapple	Junglerice	Pineapple weed	Torpedograss
Clover, Alsike	Knotweed	Plantain	Turnip, wild
Clover, red	Kochia	Plantain, broadleaf	Vaseygrass
Clover, white	Kyllinga, green	Plantain, buckhorn	Velvetleaf
Cocklebur, common	Ladysthumb	Pointsettia, wild	Vervain
Copperleaf, hophornbeam	Lambsquarters, common	Poison hemlock	Vetch
Copperleaf, Virginia	Lantana	Poison ivy/oak	Waterhemp, common
Corn, volunteer	Lettuce, miners	Pokeweed	Waterhemp, tall
Cotton, volunteer	Lettuce, prickly	Puncturevine	Wheat, volunteer
Crabgrass, large	Liverwort	Purslane, common	Willowherb, northern
Crabgrass, smooth	London rocket	Pusley, Florida	Willowherb, panicle
Croton, tropic	Lovegrass	Quackgrass	Windgrass
Croton, woolly	Lovegrass, California	Radish, wild	Witchgrass
Cudweed	Mallow, common	Ragweed, common	Woodsorrel
Cupgrass, woolly	Mallow, Venice	Ragweed, giant	Woodsorrel, yellow
Cutleaf eveningprimrose	Malva (little mallow)	Redmaids	Wormwood, biennial
	Marestail	Redvine	Yarrow, common

## STORAGE AND DISPOSAL

Do not contaminate water, food, feed or seed by storage or disposal.

**PESTICIDE STORAGE:** Do not use or store near heat or open flame. Keep container tightly closed and dry in a cool, well ventilated place. Storage temperature should not exceed 125° F. If storage temperature of this product is below 32° F, the material should not be pumped until its temperature exceeds 32° F. Protect against direct sunlight.

**PESTICIDE DISPOSAL:** Pesticide wastes are toxic. Improper disposal of excess pesticide, spray mixture or rinsate is a violation of Federal law. If these wastes cannot be disposed of by use according to label instructions, contact your State Pesticide or Environmental Control Agency or the Hazardous Waste Representative at the nearest EPA Regional Office for guidance.

### **CONTAINER HANDLING:**

**[Note to Reviewer:** The following statement will be included on all Final Printed Labels bearing multiple Container Handling statements] **“NOTE:** This product is available in multiple containers. Refer to the Net Contents section of this products labeling for the applicable “No refillable” or “Refillable” designation. Follow the container handling instructions below that apply to your container type / size.”

**[Note to Reviewer:** The bracketed section headers will be included when multiple container types / sizes are listed on the label.]

**[Non-refillable Containers 5 Gallons or Less:]** Non-refillable container. Do not reuse or refill this container. Offer for recycling if available. Triple rinse container (or equivalent) promptly after emptying. Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank and drain for 10 seconds after the flow begins to drip. Fill the container 1/4 full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times. Then offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill, or by other procedures approved by State and local authorities. Plastic containers are also disposable by incineration, or, if allowed by State and local authorities, by burning. If burned stay out of smoke.

**[Non-refillable Containers Larger than 5 Gallons:]** Non-refillable container. Do not reuse or refill this container. Offer for recycling if available. Triple rinse or pressure rinse container (or equivalent) promptly after emptying. **Triple rinse as follows:** Empty the remaining contents into application equipment or a mix tank. Fill the container 1/4 full with water. Replace and tighten closures. Tip container on its side and roll it back and forth, ensuring at least one complete revolution, for 30 seconds. Stand the container on its end and tip it back and forth several times. Turn the container over onto its other end and tip it back and forth several times. Empty the rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Repeat this procedure two more times. **Pressure rinse as follows:** Empty the remaining contents into application equipment or a mix tank and continue to drain for 10 seconds after the flow begins to drip. Hold container upside down over application equipment or mix tank and continue to drain for 10 seconds after the flow begins to drip. Hold container upside down over application equipment or mix tank or collect rinsate for later use or disposal. Insert pressure rinsing nozzle in the side of the container, and rinse at about 40 psi for at least 30 seconds. Drain for 10 seconds after the flow begins to drip.

**[Refillable Containers Larger than 5 Gallons:]** Refillable container. Refill this container with pesticide only. Do not reuse this container for any other purpose. Cleaning the container before final disposal is the responsibility of the person disposing of the container. Cleaning before refilling is the responsibility of the refiller. To clean the container before final disposal, empty the remaining contents from this container into application equipment or a mix tank. Fill the container about 10% full with water and, if possible, spray all sides while adding water. If practical, agitate vigorously or recirculate water with the pump for two minutes. Pour or pump rinsate into application equipment or rinsate collection system. Repeat this rinsing procedure two more times. Then offer for recycling if available or puncture and dispose of in a sanitary landfill, or by incineration, or by other procedures allowed by state and local authorities.

**[Refillable Container:]** Refill this container with pesticide only. Do not reuse this container for any other purpose. Close all openings and replace all caps. Contact Nufarm’s Customer Service Department at 1-800-345-3330 to arrange for return of the empty refillable container.

### **WARRANTY DISCLAIMER**

The directions for use of this product must be followed carefully. TO THE EXTENT CONSISTENT WITH APPLICABLE LAW, (1) THE GOODS DELIVERED TO YOU ARE FURNISHED "AS IS" BY MANUFACTURER OR SELLER AND (2) MANUFACTURER AND SELLER MAKE NO WARRANTIES, GUARANTEES, OR REPRESENTATIONS OF ANY KIND TO BUYER OR USER, EITHER EXPRESS OR IMPLIED, OR BY USAGE OF TRADE, STATUTORY OR OTHERWISE, WITH REGARD TO THE PRODUCT SOLD, INCLUDING, BUT NOT LIMITED TO MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, USE, OR ELIGIBILITY OF THE PRODUCT FOR ANY PARTICULAR TRADE USAGE. UNINTENDED CONSEQUENCES, INCLUDING BUT NOT LIMITED TO INEFFECTIVENESS, MAY RESULT BECAUSE OF SUCH FACTORS AS THE PRESENCE OR ABSENCE OF OTHER MATERIALS USED IN COMBINATION WITH THE GOODS, OR THE MANNER OF USE OR APPLICATION, INCLUDING WEATHER, ALL OF WHICH ARE BEYOND THE CONTROL OF MANUFACTURER OR SELLER AND ASSUMED BY BUYER OR USER. THIS WRITING CONTAINS ALL OF THE REPRESENTATIONS AND AGREEMENTS BETWEEN BUYER, MANUFACTURER AND SELLER, AND NO PERSON OR AGENT OF MANUFACTURER OR SELLER HAS ANY AUTHORITY TO MAKE ANY REPRESENTATION OR WARRANTY OR AGREEMENT RELATING IN ANY WAY TO THESE GOODS.

### **LIMITATION OF LIABILITY**

TO THE EXTENT CONSISTENT WITH APPLICABLE LAW, IN NO EVENT SHALL MANUFACTURER OR SELLER BE LIABLE FOR SPECIAL, INCIDENTAL, OR CONSEQUENTIAL DAMAGES, OR FOR DAMAGES IN THEIR NATURE OF PENALTIES RELATING TO THE GOODS SOLD, INCLUDING USE, APPLICATION, HANDLING, AND DISPOSAL. TO THE EXTENT CONSISTENT WITH APPLICABLE LAW, MANUFACTURER OR SELLER SHALL NOT BE LIABLE TO BUYER OR USER BY WAY OF INDEMNIFICATION TO BUYER OR TO CUSTOMERS OF BUYER, IF ANY, OR FOR ANY DAMAGES OR SUMS OF MONEY, CLAIMS OR DEMANDS WHATSOEVER, RESULTING FROM OR BY REASON OF, OR ARISING OUT OF THE MISUSE, OR FAILURE TO FOLLOW LABEL WARNINGS OR INSTRUCTIONS FOR USE, OF THE GOODS SOLD BY MANUFACTURER OR SELLER TO BUYER. TO THE EXTENT CONSISTENT WITH APPLICABLE LAW, ALL SUCH RISKS SHALL BE ASSUMED BY THE BUYER, USER, OR ITS CUSTOMERS. TO THE EXTENT CONSISTENT WITH APPLICABLE LAW, BUYER'S OR USER'S EXCLUSIVE REMEDY, AND MANUFACTURER'S OR SELLER'S TOTAL LIABILITY SHALL BE FOR DAMAGES NOT EXCEEDING THE COST OF THE PRODUCT.

**If you do not agree with or do not accept any of directions for use, the warranty disclaimers, or limitations on liability, do not use the product, and return it unopened to the Seller, and the purchase price will be refunded.**

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**Optional Marketing Claims:**

Nufarm Grow a better tomorrow.  
Grow a better tomorrow.

[Note to reviewer: Any text found in brackets “[ ”]” is optional on container label.]